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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2010; month=1; day=29; hr=14; min=3; sec=3; ms=685;]

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Reviewer Comments:

<210> 29

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA fragment

<400> 29

taatacacc

9

Although accepted in a previous submission, the above <223> response is insufficient: it is obvious that the sequence is a DNA fragment. As an explanation of "Artificial Sequence", please give the source of the genetic material. If completely synthesized, please state so. Same error in Sequences 31-32.

<210> 101

<211> 41

<212> RNA

<213> Artificial Sequence

<220>

<223> synthetic RNA substrate

<400> 101

aucuaccuga agcgacucau cacttcccgg aagauuacau c

41

Since the above <212> response is "RNA", no t's are allowed in the

sequence. If the sequence is a combined DNA/RNA sequence, please use "<212> DNA", and state in a <220>-<223> section that the sequence is a combined DNA/RNA. Same error in Sequences 104, 113, 120.

Application No: 10560303 Version No: 2.0

Input Set:**Output Set:**

Started: 2010-01-15 15:39:44.106
Finished: 2010-01-15 15:39:52.076
Elapsed: 0 hr(s) 0 min(s) 7 sec(s) 970 ms
Total Warnings: 88
Total Errors: 6
No. of SeqIDs Defined: 120
Actual SeqID Count: 120

Error code	Error Description
W 402	Undefined organism found in <213> in SEQ ID (1)
W 402	Undefined organism found in <213> in SEQ ID (2)
W 402	Undefined organism found in <213> in SEQ ID (3)
W 402	Undefined organism found in <213> in SEQ ID (4)
W 402	Undefined organism found in <213> in SEQ ID (5)
W 402	Undefined organism found in <213> in SEQ ID (6)
W 402	Undefined organism found in <213> in SEQ ID (7)
W 402	Undefined organism found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

Input Set:

Output Set:

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Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23)
W 213	Artificial or Unknown found in <213> in SEQ ID (24)
W 213	Artificial or Unknown found in <213> in SEQ ID (25)
W 213	Artificial or Unknown found in <213> in SEQ ID (26)
W 213	Artificial or Unknown found in <213> in SEQ ID (27)
W 213	Artificial or Unknown found in <213> in SEQ ID (28) This error has occurred more than 20 times, will not be displayed
W 402	Undefined organism found in <213> in SEQ ID (39)
W 402	Undefined organism found in <213> in SEQ ID (43)
W 402	Undefined organism found in <213> in SEQ ID (44)
W 402	Undefined organism found in <213> in SEQ ID (46)
W 402	Undefined organism found in <213> in SEQ ID (50)
W 402	Undefined organism found in <213> in SEQ ID (51)
W 402	Undefined organism found in <213> in SEQ ID (54)
W 402	Undefined organism found in <213> in SEQ ID (55)
W 402	Undefined organism found in <213> in SEQ ID (56)
W 402	Undefined organism found in <213> in SEQ ID (59)
W 402	Undefined organism found in <213> in SEQ ID (61)
W 402	Undefined organism found in <213> in SEQ ID (62) This error has occurred more than 20 times, will not be displayed
E 256	't' found in RNA; POS (24) SEQID(101)

Input Set:

Output Set:

Started: 2010-01-15 15:39:44.106
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Actual SeqID Count: 120

Error code	Error Description
E 256	't' found in RNA; POS (25) SEQID(101)
E 256	't' found in RNA; POS (20) SEQID(104)
E 256	't' found in RNA; POS (3) SEQID(113)
E 256	't' found in RNA; POS (13) SEQID(120)
E 256	't' found in RNA; POS (17) SEQID(120)

SEQUENCE LISTING

<110> Inouye, Masayori
Zhang, Junjie
Zhang, Yong Long
Qing, Guoliang
Suzuki, Motoo

<120> mRNA Interferases and Methods of Use Thereof

<130> University of Medicine & Dentistry of New Jersey (601-1-131PCT)

<140> 10560303

<141> 2010-01-15

<150> PCT/US2004/018571

<151> 2004-06-14

<150> 60/543,693

<151> 2004-02-11

<150> 60/478,515

<151> 2003-06-13

<160> 120

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 336

<212> DNA

<213> E. coli

<400> 1

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atggtaagcc gatacgtaacc cgatatgggc gatctgattt ggggtgattt tgacccgaca 60
aaaggtagcg agcaagctgg acatcggtcca gctgttgtcc tgagtccttt catgtacaac 120
aacaaaacag gtatgtgtct gtgtgttcct tgtacaacgc aatcaaaagg atatccgttc 180
gaagttgttt tatccggtca ggaacgtgat ggcgtagcgt tagctgatca ggtaaaaagt 240
atcgctggc gggcaagagg agcaacgaag aaaggaacag ttgccccaga ggaattacaa 300
ctcattaaag ccaaaattaa cgtactgatt gggtag 336
```

<210> 2

<211> 111

<212> PRT

<213> E. coli

<400> 2

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Met Val Ser Arg Tyr Val Pro Asp Met Gly Asp Leu Ile Trp Val Asp
  1             5             10             15
Phe Asp Pro Thr Lys Gly Ser Glu Gln Ala Gly His Arg Pro Ala Val
          20          25          30
Val Leu Ser Pro Phe Met Tyr Asn Asn Lys Thr Gly Met Cys Leu Cys
          35          40          45
Val Pro Cys Thr Thr Gln Ser Lys Gly Tyr Pro Phe Glu Val Val Leu
```

50	55	60
Ser Gly Gln Glu Arg Asp Gly Val Ala Leu Ala Asp Gln Val Lys Ser		
65	70	75
Ile Ala Trp Arg Ala Arg Gly Ala Thr Lys Lys Gly Thr Val Ala Pro		
	85	90
Glu Glu Leu Gln Leu Ile Lys Ala Lys Ile Asn Val Leu Ile Gly		
	100	105
		110

<210> 3
 <211> 333
 <212> DNA
 <213> E. coli

<400> 3
 atggaaagag gggaaatctg gcttgtctcg cttgatacta ccgcagggtca tgagcagcag 60
 ggaacgcggc cgggtgctgat tgtcacaccg gcggccttta atcgcgtgac ccgcctgcct 120
 gttgttgtgc ccgtaaccag cggaggcaat tttgcccgca ctgccggctt tgcgggtgtcg 180
 ttggatggtg ttggcatacg taccacaggt gttgtacgtt gcgatcaacc ccggacaatt 240
 gatatgaaag cacggggcgg aaaacgactc gaacgggttc cggagactat catgaacgaa 300
 gttcttggcc gcctgtccac tattctgact tga 333

<210> 4
 <211> 110
 <212> PRT
 <213> E. coli

<400> 4
Met Glu Arg Gly Glu Ile Trp Leu Val Ser Leu Asp Pro Thr Ala Gly
1 5 10 15
His Glu Gln Gln Gly Thr Arg Pro Val Leu Ile Val Thr Pro Ala Ala
20 25 30
Phe Asn Arg Val Thr Arg Leu Pro Val Val Val Pro Val Thr Ser Gly
35 40 45
Gly Asn Phe Ala Arg Thr Ala Gly Phe Ala Val Ser Leu Asp Gly Val
50 55 60
Gly Ile Arg Thr Thr Gly Val Val Arg Cys Asp Gln Pro Arg Thr Ile
65 70 75 80
Asp Met Lys Ala Arg Gly Gly Lys Arg Leu Glu Arg Val Pro Glu Thr
85 90 95
Ile Met Asn Glu Val Leu Gly Arg Leu Ser Thr Ile Leu Thr
100 105 110

<210> 5
 <211> 249
 <212> DNA
 <213> E. coli

<400> 5
 atgatccaca gtagcgtaaa gcgttgggga aattcaccgg cgggtcggat cccggctacg 60
 ttaatgcagg cgctcaatct gaattattgat gatgaagtga agattgacct ggtggatggc 120

aaattaatta ttgagccagt gcgtaaagag cccgtattta cgcttgctga actgggtcaac 180
gacatcacgc cggaaaacct ccacgagaat atcgactggg gagagccgaa agataaggaa 240
gtctggttaa 249

<210> 6
<211> 82
<212> PRT
<213> E. coli

<400> 6
Met Ile His Ser Ser Val Lys Arg Trp Gly Asn Ser Pro Ala Val Arg
1 5 10 15
Ile Pro Ala Thr Leu Met Gln Ala Leu Asn Leu Asn Ile Asp Asp Glu
20 25 30
Val Lys Ile Asp Leu Val Asp Gly Lys Leu Ile Ile Glu Pro Val Arg
35 40 45
Lys Glu Pro Val Phe Thr Leu Ala Glu Leu Val Asn Asp Ile Thr Pro
50 55 60
Glu Asn Leu His Glu Asn Ile Asp Trp Gly Glu Pro Lys Asp Lys Glu
65 70 75 80
Val Trp

<210> 7
<211> 258
<212> DNA
<213> E. coli

<400> 7
atgcatacca cccgactgaa gaggggttggc ggctcagtta tgctgaccgt cccaccggca 60
ctgctgaatg cgctgtctct gggcacagat aatgaagttg gcatgggtcat tgataatggc 120
cggctgattg ttgagccgta cagacgcccg caatattcac tggctgagct actggcacag 180
tgtgatccga atgctgaaat atcagctgaa gaacgagaat ggctggatgc accggcgact 240
ggtcaggagg aaatctga 258

<210> 8
<211> 85
<212> PRT
<213> E. coli

<400> 8
Met His Thr Thr Arg Leu Lys Arg Val Gly Gly Ser Val Met Leu Thr
1 5 10 15
Val Pro Pro Ala Leu Leu Asn Ala Leu Ser Leu Gly Thr Asp Asn Glu
20 25 30
Val Gly Met Val Ile Asp Asn Gly Arg Leu Ile Val Glu Pro Tyr Arg
35 40 45
Arg Pro Gln Tyr Ser Leu Ala Glu Leu Leu Ala Gln Cys Asp Pro Asn
50 55 60
Ala Glu Ile Ser Ala Glu Glu Arg Glu Trp Leu Asp Ala Pro Ala Thr
65 70 75 80
Gly Gln Glu Glu Ile
85

<210> 9
 <211> 24
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> T54 to K77 fragment of E. coli MazE

<400> 9
 Thr Leu Ala Glu Leu Val Asn Asp Ile Thr Pro Glu Asn Leu His Glu
 1 5 10 15
 Asn Ile Asp Trp Gly Glu Pro Lys
 20

<210> 10
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> N60 to K77 fragment of E. coli MazE

<400> 10
 Asn Asp Ile Thr Pro Glu Asn Leu His Glu Asn Ile Asp Trp Gly Glu
 1 5 10 15
 Pro Lys

<210> 11
 <211> 30
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> synthetic RNA substrate

<400> 11
 uaagaaggag auauacauau gaaucaaauc 30

<210> 12
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> single stranded oligonucleotide

<400> 12
 gctcgtatct acaatgtaga ttgatatata ctgtatctac atatgatagc 50

<210> 13
 <211> 50

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> single stranded oligonucleotide

 <400> 13
 cgagcataga tgttacatct aactatatat gacatagatg tatactatcg 50

 <210> 14
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <400> 14
 agatctcgat cccgcaaatt aat 23

 <210> 15
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 15
 ttagagatca atttcttgcc gttttac 27

 <210> 16
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 16
 ttaaagatcg tcaacgtaac cg 22

 <210> 17
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 17
 tgctctttat cccacgggca gc 22

 <210> 18
 <211> 24

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 18
 gcccgattca ccgcgaagat cgtc 24

 <210> 19
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 19
 gggttttgatt tgctcccaac gggcaag 27

 <210> 20
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 20
 catttcctcc tccagtttag cctggtc 27

 <210> 21
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 21
 ttgccagact tcttcattg ttctgag 27

 <210> 22
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DNA primer

 <400> 22
 gatccccaca atgcggtgac gagt 24

 <210> 23
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DNA primer

<400> 23
 cacgttggtcc actttgttca ccgc 24

<210> 24
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DNA primer

<400> 24
 cagttcagcg ccgaggaaac gcat 24

<210> 25
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DNA primer

<400> 25
 gcgttcgtcg tcggcccaac cgga 24

<210> 26
 <211> 30
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> antisense RNA

<400> 26
 gauuugauuc auauguauau cuccuucuua 30

<210> 27
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> complementary DNA

<400> 27
 gatttgattc atatgtatat ctctttctta 30

<210> 28
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> DNA primer	
<400> 28	
agaatgtgcg ccatttttca ct	22
<210> 29	
<211> 9	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> DNA fragment	
<400> 29	
taatacacc	9
<210> 30	
<211> 15	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligonucleotide	
<400> 30	
atgaatcaca aagtg	15
<210> 31	
<211> 18	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> DNA fragment	
<400> 31	
catcatcatc atcatcat	18
<210> 32	
<211> 12	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> DNA fragment	
<400> 32	
atcgaaggta gg	12
<210> 33	
<211> 60	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> multiple cloning site	

<400> 33
catatggagc tcggtaccct cgagggatcc gaattcaagc ttgtcgacct gcagtctaga 60

<210> 34
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA primer

<400> 34
caggagauac cucaugauc a 21

<210> 35
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA primer

<400> 35
ctcaatgatc acaggagata c 21

<210> 36
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA primer

<400> 36
tcctctatgg agttactagt g 21

<210> 37
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA primer

<400> 37
gggacaggag atacct 16

<210> 38
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA primer

<400> 38

tgtcctctat ggagttacta gtg

23

<210> 39

<211> 330

<212> DNA

<213> *Bacillus halodurans*

<400> 39

atgccagtac cggatagagg gaatcttggt tatgtagact ttaaccaca atcgggtcat 60
gaccaagccg ggacacgacc ggctattggt ttgtccccta aattatTTaa taaaaacaca 120
ggTTTTgcg tggTTgtcc aattaccaga caacaaaag gttatccttt tgaaatagaa 180
ataccaccg ggttacctat tgaaggggtt attcttactg accaagtaa aagtctggat 240
tggagagcaa gaaactttca cattaaagga caagcaccag aggaaactgt tactgattgt 300
ttacaactta ttcatacatt tttatcttaa 330

<210> 40

<211> 363

<212> DNA

<213> *Staphylococcus epidermidis*

<400> 40

atgattagaa gaggagatgt ttatttagcg gatttatcac cagttcaagg gtctgaacaa 60
gggggagtaa gacctgtagt tatcattcaa aatgatactg gtaataaata tagtccaact 120
gtaattgtag ctgcgattac tgatgggatt aataaagcga aaataccaac ccacgtagaa 180
attgaaaaga aaaagtataa attagacaaa gattcagtta ttcttcttga acaaattaga 240
acactagata aaaagcgttt aaaagaaaaa ttaacatttt tatcagagag taaaatgata 300
gaggttgata atgccttaga tattagtttg ggattaaata actttgatca tcataaatct 360
taa 363

<210> 41

<211> 411

<212> DNA

<213> *Staphylococcus aureus*

<400> 41

atgattagac gaggagatgt ttatttagca gatttatcac cagtacagg atctgaacaa 60
gggggagtc gacctgtagt cataattcaa aatgatactg gtaataaata tagtcctaca 120
gttattgttg cggcaataac tggtaggatt aataaagcga aaataccgac acatgtagag 180
attgaaaaga aaaagtataa gttggataaa gactcagtta tattattaga acaaattcgt 240
acacttgata aaaaacgatt gaaagaaaaa ctgacgtact tatccgatga taaaatgaaa 300
gaagtagata atgcactaat gattagttta gggctgaatg cagtagctca accagaaaaa 360
ttaggcgtct attatatgta tttttcagag ataaataaaa tattgatata a 411

<210> 42

<211> 351

<212> DNA

<213> *Bacillus subtilis*

<400> 42

ttgattgtga aacgcggcga tgtttatTTt gctgatttat ctctgttgt tggctcagag 60
caaggcgggg tgcgcccgt tttagtgat caaaatgaca tcggaatcg cttcagccca 120
actgctattg ttgcagccat aacagcacia atacagaaag cgaaattacc aaccacgtc 180
gaaatcgatg caaaacgcta cggTTTTgaa agagattccg ttattttgct ggagcaaatt 240
cggacgattg acaagcaaag gttaacggat aagattactc atctggatga tgaaatgatg 300
gataaggttg atgaagcctt acaaatcagt ttggcactca ttgattTTta g 351

<210> 43
<211> 324
<212> DNA
<213> *Neisseria meningitides*

<400> 43
atggatatgg tagtacgcgg cggaatctat ctggtctcct tagacccgac cgtaggaagc 60
gaaatcaaaa agacacgtcc ttgtgtcgta gtctctcctc ctgaaataca caactatctc 120
aagactgtgc tgatcgttcc catgacgagc ggaagccgtc ctgccccgtt ccgcgtcaat 180
gtccgcctttc aggataaaga cggtttgctt ttgcccgaac agattagggc tgtggataaa 240
gccggattgg tcaaacatct tggcaattta gacaacagta cggctgaaaa actgtttgca 300
gtattgcagg agatgtttgc ctga 324

<210> 44
<211> 366
<212> DNA
<213> *Morganella morganii*

<400> 44
atgcgcgcggc ggctggtcag gaggaaatct gacatggaaa gaggggaaat ctggcttgtc 60
tcgcttgacc ctaccgcagg tcatgagcag cagggaacgc ggccggtact gattgtcacg 120
ccggctgctt ttaaccgcgt gaccgcctg cctgttggtg tgcccgtagc cagcggaggt 180
aattttgccc gcacagcagg ctttgcgtgtg tcgcttgacc gcgccggcat acgtaccacc 240
ggcggttggtc gttgcgatca accccggacg atcgatatga aagcccgcg cggcaaacga 300
ctcgaacggg tgccagagac tatcatggac gacgttcttg gccgtctggc caccatcctg 360
acctga 366

<210> 45
<211> 321
<212> DNA
<213> *Mycobacterium tuberculosis*

<400> 45
gtggtgattc ggggagcggc ctacagggtc gacttcggcg atgcgaagcg aggccacgag 60
caacgcgggc ggcgctacgc cgtggctcctc agccccggct cgatgccgtg gagtgtagta 120
accgtggtgc cgacgtcgac aagcgcccaa cctgcgggtt tccgaccaga gctggaagtc 180
atgggaacaa agacacgggt cctggtggat cagatccgga cgatcggcat cgtctatgtg 240
cacggcgatc cggtcgacta tctggaccgt gaccaaattg ccaaggtgga acacgccgtg 300
gcacgatacc ttggtctgtg a 321

<210> 46
<211> 109
<212> PRT
<213> *Bacillus halodurans*

<400> 46
Met Pro Val Pro Asp Arg Gly Asn Leu Val Tyr Val Asp Phe Asn Pro
1 5 10 15
Gln Ser Gly His Asp Gln Ala Gly Thr Arg Pro Ala Ile Val Leu Ser
20 25 30
Pro Lys Leu Phe Asn Lys Asn Thr Gly Phe Ala Val Val Cys Pro Ile
35 40 45
Thr Arg Gln Gln Lys Gly Tyr Pro Phe Glu Ile Glu Ile Pro Pro Gly
50 55 60
Leu Pro Ile Glu Gly Val Ile Leu Thr Asp Gln Val Lys Ser Leu Asp
65 70 75 80

